

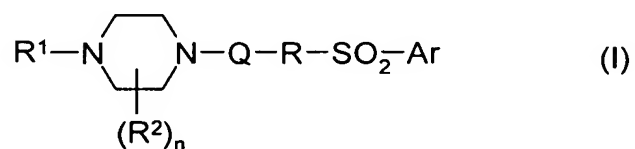
Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

In the claims:

1. (Original) An N-[(piperazinyl)hetaryl]arylsulfonamide compound of the general formula I



in which

R is oxygen, a group N-R³ or a group CR^{3a}R^{3b};

Q is a bivalent, 6-membered heteroaromatic radical which possesses 1 or 2 N atoms as ring members and which optionally carries one or two substituents R^a which is/are selected, independently of each other, from halogen, CN, NO₂, CO₂R⁴, COR⁵, C₁-C₄-alkyl, C₁-C₄-alkoxy, C₁-C₄-haloalkyl, NH₂, NHR⁶, NR⁶R⁷ and C₁-C₄-haloalkoxy;

Ar is phenyl or a 6-membered heteroaromatic radical which possesses 1 or 2 N atoms as ring members and which optionally carries one or two substituents R^b , which is/are selected from halogen, NO_2 , CN, CO_2R^4 , COR^5 , NH_2 , NHR^6 , NR^6R^7 , C_1 - C_6 -alkyl, C_1 - C_6 -haloalkyl, C_1 - C_6 -alkoxy, C_1 - C_6 -haloalkoxy, C_2 - C_6 -alkenyl, C_2 - C_6 -alkynyl, C_3 - C_6 -cycloalkyl, C_3 - C_6 -cycloalkoxy, C_3 - C_6 -cycloalkyl- C_1 - C_4 -alkyl and C_1 - C_4 -haloalkyl, with it also being possible for two radicals R^b which are bonded to adjacent C atoms of Ar to be together C_3 - C_4 -alkylene;

n is 0, 1 or 2;

R^1 is hydrogen, C_1 - C_4 -alkyl, C_1 - C_4 -haloalkyl, C_3 - C_6 -cycloalkyl, C_3 - C_6 -cycloalkyl- C_1 - C_4 -alkyl, C_1 - C_4 -hydroxyalkyl, C_1 - C_4 -alkoxy- C_1 - C_4 -alkyl, C_3 - C_4 -alkenyl or C_3 - C_4 -alkynyl;

R^2 is C_1 - C_4 -alkyl or, together with R^1 , is C_2 - C_5 -alkylene or, in the case of $n = 2$, the two radicals R^2 can together be C_1 - C_4 -alkylene;

R^3 is hydrogen or C_1 - C_4 -alkyl;

R^{3a} , R^{3b} are, independently of each other, hydrogen or C₁-C₄-alkyl;

R^4 is C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₂-C₄-alkenyl C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyl-C₁-C₄-alkyl, phenyl or benzyl; and

R^5 is hydrogen, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₂-C₄-alkenyl C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyl-C₁-C₄-alkyl, phenyl or benzyl;

R^6 , R^7 are each independently selected from C₁-C₄-alkyl, C₁-C₄-haloalkyl or together with the nitrogen to which they are bound form a saturated 3-, 4-, 5- or 6-membered heterocycle, which additionally may comprise an oxygen atom or an additional nitrogen atom as a ring member and which may carry 1, 2, 3 or 4 C₁-C₄ alkyl groups;

the N-oxides thereof and the physiologically tolerated acid addition salts of these compounds;

with the exception of the compounds: 4-methyl-N-[6-(4-methylpiperazin-1-yl)pyridin-3-yl]benzenesulfonamide and 4-chloro-N-[6-(4-methylpiperazin-1-yl)pyridin-3-yl]benzenesulfonamide.

2. (Original) The compound as claimed in claim 1, wherein R is N- R^3 with R^3 being H or C₁-C₄-alkyl.

2 3. (Currently Amended) The compound as claimed in claim 2, wherein

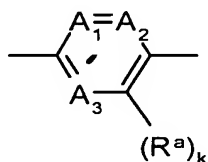
Q is a bivalent, 6-membered heteroaromatic radical which possesses 1 or 2 N atoms as ring members and which optionally carries one or two substituents

R^a which is/are selected, independently of each other, from halogen, CN, NO_2 , CO_2R^4 , COR^5 , C_1 - C_4 -alkyl and C_1 - C_4 -haloalkyl and

Ar is phenyl or a 6-membered heteroaromatic radical which possesses 1 or 2 N atoms as ring members and which optionally carries one or two substituents R^b , which is/are selected from halogen, NO_2 , CN, CO_2R^4 , COR^5 , C_1 - C_6 -alkyl, C_2 - C_6 -alkenyl, C_2 - C_6 -alkynyl, C_3 - C_6 -cycloalkyl, C_3 - C_6 -cycloalkyl-C\pard plain 1- C_4 -alkyl and C_1 - C_4 -haloalkyl, with it also being possible for two radicals R^b which are bonded to adjacent C atoms of Ar to be together C_3 - C_4 -alkylene.

~~3~~ 4. (Currently Amended) The compound as claimed in claim 1, in which the piperazine ring is bonded to the heteroaromatic radical Q in the para position in relation to the group $R-SO_2$ -Ar.

~~4~~ 5. (Currently Amended) The compound as claimed in ~~one of the preceding claims~~ claim 1, in which Q is a radical of the formula

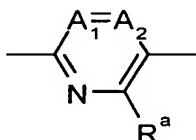


in which A_1 , A_2 and A_3 are, independently of each other, N or CH, one or two of the variables A_1 , A_2 and A_3 can also be $C-R^a$, $k = 0$ or 1 and R^a is selected from halogen, C_1 - C_4 -alkyl, C_1 - C_4 -haloalkyl, C_1 - C_4 -alkoxy, NH_2 , NHR^6 , NR^6R^7 , s_{22} and C_1 - C_4 -haloalkoxy, with A_1 , A_2 and A_3 not simultaneously being N or simultaneously being selected from CH and $C-R^a$.

~~5~~ 6. (Currently Amended) The compound as claimed in claim ~~4~~ 5, in which A_3 is nitrogen, A_2 is CH and A_1 is N or CH and wherein the piperazine radical is located in the 2 position.

~~6~~ 7. (Currently Amended) The compound as claimed in claim ~~5~~ 6, in which Q is pyridin-2,5-diyl which carries the piperazine radical in the 2 position.

~~7~~ 8. (Currently Amended) The compound as claimed in claim ~~5~~ 6, in which Q is a radical of the formula



in which A₁ and A₂ are, independently of each other, N or CH and R^a is selected from , C₁-C₄-alkoxy, NH₂, NHR⁶, NR⁶R⁷ and C₁-C₄-haloalkoxy.

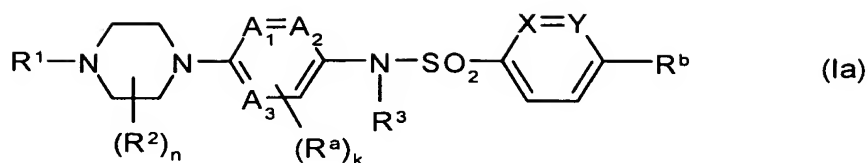
~~8~~ 9. (Currently Amended) The compound as claimed in claim ~~7~~ 8, in which A₁ is N or CH and A₂ is CH and wherein the piperazine radical is located in the 2 position.

~~9~~ 10. (Currently Amended) The compound as claimed in ~~one of the preceding claims~~ claim 1, in which the radical Ar carries a substituent R^b in the para position and, where appropriate, a further substituent R^b in the meta position or in the ortho position, in each case based on the binding site of the sulfonamide group.

~~10~~ 11. (Currently Amended) The compound as claimed in ~~one of the preceding claims~~ claim 1, in which Ar is phenyl or pyridyl, which radicals possess, where appropriate, one or 2 R^b substituents.

~~11~~ 12. (Currently Amended) The compound as claimed in ~~one of the preceding claims~~ claim 1, in which R¹ is different from hydrogen and methyl.

~~12~~ 13. (Currently Amended) The compound as claimed in claim 1 of the general formula
1a



in which n , R^1 , R^2 , R^3 , R^a and R^b have the meanings given in claim 1 and in which either

A_1 , A_2 and A_3 are, independently of each other, N or CH and one or two of the variables A_1 , A_2 and A_3 can also be $C-R^a$, with A_1 , A_2 and A_3 not simultaneously being N or simultaneously being selected from CH and $C-R^a$,

X and Y are selected from CH, $C-R^b$ and N, in which R^b is halogen, methyl, CN, difluoromethyl or trifluoromethyl, with X and Y not simultaneously being N or simultaneously being $C-R^b$, and

k is 0 or 1.

~~43~~ 14. (Currently Amended) The compound of the formula Ia as claimed in claim ~~42~~ 13, in which $k = 0$, with A_1 , A_2 and A_3 being, independently of each other, N or CH and A_1 , A_2 and A_3 not simultaneously being N or simultaneously being CH.

~~44~~ 15. (Currently Amended) The compound of the formula Ia as claimed in claim ~~43~~ 14, in which A_1 is CH or N, A_2 is CH and A_3 is N.

~~45~~ 16. (Currently Amended) The compound of the formula Ia as claimed in claim ~~42~~ 13, in which k is 1, A_1 is CH or N, A_2 is CH and A_3 is N, and R^a is selected from , C_1 - C_4 -alkoxy, NH_2 , NHR^6 , NR^6R^7 and C_1 - C_4 -haloalkoxy and R^a is bound to the carbon atom adjacent to A_3 .

~~46~~ 17. (Currently Amended) The compound of the formula Ia as claimed in ~~any of claims 12 to 15~~ claim 13, in which n is 0 or 1 and, in the case of $n = 1$, R^2 is bonded to the C

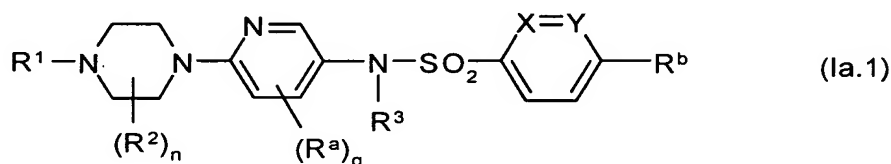
atom of the piperazine ring which is adjacent to the group R¹-N and is a methyl group having the S configuration.

~~47~~ 18. (Currently Amended) The compound of the formula Ia as claimed in ~~one of claims 12 to 16~~ claim 13, in which the radical Ar carries a substituent R^b in the para position and, where appropriate, a further substituent R^b in the meta position or in the ortho position, in each case based on the binding site of the sulfonamide group.

~~48~~ 19. (Currently Amended) The compound of the formula Ia as claimed in ~~one of claims 12 to 17~~ claim 13, in which Ar is phenyl or pyridyl, which radicals possess, where appropriate, one or 2 R^b substituents.

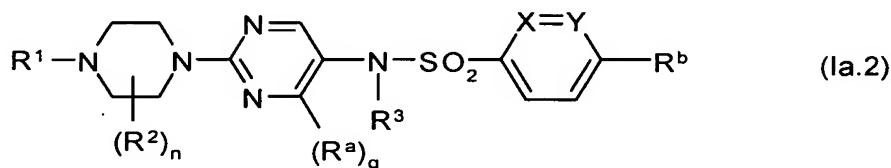
~~49~~ 20. (Currently Amended) The compound of the formula Ia as claimed in ~~one of claims 12 to 18~~ claim 13, in which R¹ is different from hydrogen and methyl.

~~20~~ 21. (Currently Amended) The compound of the formula Ia as claimed in ~~one of claims 12 to 19~~ claim 13, of the general formula Ia.1



in which n, X, Y, R¹, R², R³, R^a and R^b have the meanings given in claim ~~42~~ 13 and q is 0, 1 or 2.

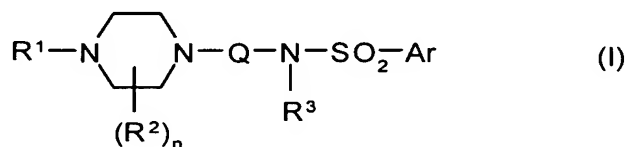
~~24~~ 22. (Currently Amended) The compound of the formula Ia as claimed in ~~one of claims 12 to 19~~, claim 13 of the general formula Ia.2



in which n, X, Y, R¹, R², R³, R^a and R^b have the meanings given in claim ~~42~~ 13 and q is 0 or 1.

~~22~~ 23. (Currently Amended) A pharmaceutical composition which comprises at least one N-[(piperazinyl)hetaryl]arylsulfonamide compound as claimed in ~~one of claims 1 to 24~~ claim 1 and/or at least one physiologically tolerated acid addition salt of I and/or an N-oxide of I, where appropriate together with physiologically acceptable carriers and/or auxiliary substances.

~~23~~ 24. (Currently Amended) The use of at least one N-[(piperazinyl)hetaryl]arylsulfonamide compound of the formula I

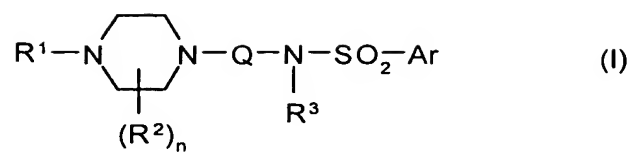


in which Q, Ar, n, R¹, R² and R³ have the previously mentioned meanings, of the N-oxides thereof and of the physiologically tolerated acid addition salts thereof for producing a pharmaceutical composition for treating diseases which respond to influencing by dopamine D₃ receptor antagonists or dopamine D₃ agonists.

~~24~~ 25. (Currently Amended) The use as claimed in claim ~~23~~ 24 for treating diseases of the central nervous system.

~~25~~ 26. (Currently Amended) The use as claimed in claim ~~23~~ 24 for treating kidney function disturbances.

~~26~~ 27. (Currently Amended) A method for treating a medical disorder susceptible to treatment with a dopamine D₃ receptor antagonist or a dopamine D₃ agonist, said method comprising administering an effective amount of at least one compound of the formula I in which Q, Ar, n, R¹, R² and R³ have the previously mentioned meanings, or the N-oxides thereof or the physiologically tolerated acid addition salts thereof to claim 1



to a subject in need thereof.

~~27~~ 28. (Currently Amended) The method as claimed in ~~Claim 26~~ claim 27, wherein the medical disorder is a disease of the central nervous system.

29. (New) The method as claimed in claim 27 wherein the medical disorder is a disturbance of kidney function.